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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,589	04/28/2006	Thomas J Smith	112981.125US36	9056

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EXAMINER	
YOUNG, MICAH PAUL	
ART UNIT	PAPER NUMBER
1618	

NOTIFICATION DATE	DELIVERY MODE
06/23/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/538,589	SMITH, THOMAS J	
	Examiner	Art Unit	
	MICAH-PAUL YOUNG	1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 March 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Acknowledgment of Papers Received: Response dated 3/25/10.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 9-20, 24-30, 34-42, and 45-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Hettche et al (USPN 5,271,946 hereafter '946).

The '946 patent teaches a sustained release pharmaceutical dosage form comprising a multiplicity of particles coated with a sustained release polymer (abstract, col. 3, lin. 10-15). The dosage form can be administered via a suspension of the coated particles (col. 3, lin. 22-26, col. 3, lin. 58-61). The core particle comprising the active agent is coated with a polymer solution comprising alkylcellulose polymers that can be both hydrophilic and hydrophobic such as ethylcellulose and hydroxypropylcellulose (col. 3, lin. 65-col. 4, lin. 35). The coated cores are further coated with semi-permeable coating comprising alkylcellulose polymers (col. 4, lin. 26-45). The second coating is semi-porous comprising porous and non-porous areas (col. 5, lin. 65-col. 6, lin. 28). The second polymer coating comprises pore forming agents (col. 6, lin. 30-60). The first coating is present in a concentration from 0.1-200 % of the core drug particles (col. 5, lin. 1-8). The coatings are sprayed as a solution to the core drug particle (col. 4, lin. 40-51). The coating may also be applied via a dip coating method such as coacervation method (col. 4, lin. 52-53). The particles once coated comprise carriers and auxiliary components (col. 9, lin. 10-38)

Regarding the release kinetics of the coated particles it is the position of the Examiner that these limitations do not overcome the prior art since the '946 patent teaches a coated particle made with the same components as the instant claims. The release kinetics are an inherent functional limitation of the composition, falling from the arrangement of the compositional components. Since a composition and its properties cannot be separated, and the coated particles of the '974 patent have identical components, the coated particles must also have the same properties.

Regarding the manner in which the core particle is coated, claims 18 and 19, it is the position of that these limitations do not overcome the prior art since the process limitations render the claims product by process claims. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

For these reasons the claims are rejected.

Claims 1-4, 6, 9-19, 24, 25, 27-31, 34-42, 44 and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Paradissis et al (USPN 5,133,974 hereafter '974).

The '974 patent teaches a sustained release formulation comprising coated core particles comprising a drug and a second coating applied to the core, wherein the coated particles exhibit a zero order release of the drug (abstract). The core particle comprises a drug coated to a sugar

sphere (col. 4, lin. 12-20). The drug coated sphere is sprayed with a solution comprising a first binding polymer including cellulose, vinyl and acrylic based polymers (col. 5, lin. 40-45). These polymers include hydrophilic polymers such as hydroxypropylmethylcellulose of hydrophobic polymers such as ethylcellulose (***Ibid.***). The coated drug sphere is further coated with second polymer comprising a film forming agent that forms a sustained release particle (col. 6, lin. 67-col. 7, lin. 10). These film forming agents include cellulose derivates (***Ibid.***). The second polymer can comprise pore-forming agents present in the coating layer (col. 7, lin. 10-15). These pore-forming agents comprise 25% of the layer, meaning there are portions of the layer that are porous and non porous. These particles once coated have a size of at least 250 microns (col. 7, lin. 22).

Regarding the release kinetics of the coated particles it is the position of the Examiner that these limitations do not overcome the prior art since the '974 patent teaches a coated particle made with the same components as the instant claims. The release kinetics are an inherent functional limitation of the composition, falling from the arrangement of the compositional components. Since a composition and its properties cannot be separated, and the coated particles of the '974 patent have identical components, the coated particles must also have the same properties.

Regarding the manner in which the core particle is coated, claims 18 and 19, it is the position of that these limitations do not overcome the prior art since the process limitations render the claims product by process claims. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the

product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

For these reasons the claims are rejected.

Claims 1-4, 6, 9-12, 16-19, 24, 27 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Hendrickson et al (USPN 5,286,497 hereafter '497).

The '497 patent teaches a sustained release formulation comprising multiple coated beads that exhibit zero-order release of an active agent (abstract, Figures). The beads comprise a core bead that is formed from compression (col. 6, lin. 10-16). The core comprises the drug and comprises a binding solution coated to the drug in order to keep the drug in place (col. 5, lin. 20-25). The binder solution comprises cellulose, vinyl and acrylic based polymers (col. 5, lin. 25-35). The coated drug core is further coated with a second polymeric coating comprising an acrylic based polymer (col. 6, lin. 10-50). The coated beads have a size range from 354-595 microns (col. 4, lin. 50-55).

Regarding the release kinetics of the coated particles it is the position of the Examiner that these limitations do not overcome the prior art since the '497 patent teaches a coated particle made with the same components as the instant claims. The release kinetics are an inherent functional limitation of the composition, falling from the arrangement of the compositional components. Since a composition and its properties cannot be separated, and the coated particles of the '497 patent have identical components, the coated particles must also have the same properties.

Regarding the manner in which the core particle is coated, claims 18 and 19, it is the position of that these limitations do not overcome the prior art since the process limitations render the claims product by process claims. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

For these disclosures render the claims anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 6-8 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over the disclosures of Paradissis et al (USPN 5,133,974 hereafter '974).

As discussed above the '974 patent discloses a sustained release formulation comprising coated core drug particles comprising an active agent, a first cellulose coating and a second coating. The cores of the '974 patent start out at 74 microns and are coated and sieved with a -10+60 mesh sieve, meaning that some particles sieved through the screen will have dimensions less than 2000 (-10 mesh) microns but the majority will be smaller and as small as 250 (60 mesh) microns. Of these particles it would have been obvious to sleek smaller particles since smaller particles would have an increased surface area when administered, increasing the total amount of pharmaceuticals administered to the patient.

With these things it would have been obvious to select the smaller particle sizes of the '974 patent in order to product a dosage form with increased surface area, and a better chance of active agent transmission. One of ordinary skill in the art would have been motivated to modify the prior art as described with an expected result of a dosage form useful for sustained release.

Claims 1, 21-23 and 48-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over the disclosures of Hettche et al (USPN 5,271,946 hereafter '946).

As discussed above the '946 patent discloses a sustained release formulation comprising coated core particles comprising a first and second polymeric coating, where the first polymeric coating is present in a concentration from 0.1-200% of the weight of the core particle. The reference is however silent to the % volume of the core particle. The reference also differs from the instant claims by not reciting the specific ranges of the instant claims. These modifications

and differences would have been obvious to one of ordinary skill in the art and appear to be merely an optimization of ranges arrived at by routine experimentation. The general conditions of the claims have been met, namely a core particle comprising a drug that is coated with a polymeric material that is up to 200% of the weight of the core particle. It would have been obvious to optimize these concentrations in order to control the release rate of the coated drug particles. More polymer would slow the release while less polymer would increase the release rate. These optimizations would result from routine experimentation and would be obvious. Also regarding the reporting of the percentage volume as relative to the core particle, it is the position of the Examiner that these ranges would also be obvious to optimize. The same general conditions have been met by the '946 patent, and as such the optimization of the general conditions would also be obvious to one of ordinary skill in the art as a result of routine experimentation.

Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *See* In re Aller, 220 F.2d 454 105 USPQ 233, 235 (CCPA 1955).

Furthermore the claims differ from the reference by reciting various concentrations of the active ingredient(s). However, the preparation of various pharmaceutical compositions having various amounts of the active is within the level of skill of one having ordinary skill in the art at the time of the invention. It has also been held that the mere selection of proportions and ranges is not patentable absent a showing of criticality. *See* In re Russell, 439 F.2d 1228 169 USPQ 426 (CCPA 1971).

One of ordinary skill in the art would have been motivated to optimize the ranges recited in the instant claims in order to better optimize and control the release of the coated drug cores. By increasing or decreasing the concentration of the first coating polymer the release of the drug can be either increased or decreased and prolonged over time. It would have been obvious to optimize these components with an expected result of a stable formulation with a precise controlled release.

Response to Arguments

Applicant's arguments filed 3/25/10 have been fully considered but they are not persuasive. Applicant argues that:

(1) The '946 patent does not anticipate the instant claims since it does not disclose a multiparticulate dosage form comprising coated drug cores as recited in the instant claims.

Regarding this argument it remains the position of the Examiner that the '946 patent continues to anticipate the instant claims. Applicant argues that '946 patent is drawn to conventional mixture of active agents an auxiliary substances rather than a composition comprising multiple coated cores as required by the instant claims. However Example 5 clearly discloses multiple coated drug cores (Example 5). Further Example 3 discloses coated drug particles. The core comprise an active agent, the coating comprises a polymer as recited in claim 16, specifically ethylcellulose. These coated pellets are collected and filled into gelatin capsules. This constitutes a multiparticulate dosage form comprising coated drug cores. The active agent is mixed with auxiliary substances, but this mixture is further coated meeting the limitations of the claims. The claims are written with open claim language that leaves open the inclusion of auxiliary substances into the cores. Applicant further argues that the particles of the instant

claims are much smaller than that of the '946 patent and thus are not anticipated by the patent. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the particle size of the instant particles versus the '946 particles) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The '946 patent is not applied to any claim reciting a specific particles size, and as such this argument has no merit. Regarding the permeability of the first and second coating as recited in the claims, applicant argues that the '946 patent does not teach these features. However it is the position of the Examiner that such limitation are merely functional limitations that are dependent on the composition since a composition and its properties cannot be separated. As such the '946 patent teaches the same polymers as useful for first and second coating layers. The polymers taught in the '946 patent are identical to those recited in claims 16 and 17, and thus must have the same properties as the coating of the instant claims. For these reasons the claims remain anticipated.

(2) The '974 patent does not anticipate the instant claims since it does not disclose a multiparticulate dosage form comprising coated drug cores as recited in the instant claims.

Regarding this argument it remains the position of the Examiner of the '974 patent continues to anticipate the instant claims. Applicant argues that the '974 patent does not disclose a sustained release preparation however extended release particles are formed by coating the immediate release particles with polymers (col. 8, lin. 1-5). Applicant argues that the patent does not disclose a permeable coating. However as discussed above the coating polymers recited in col. 7, lin. 1-10 are identical to the coatings polymers recited in claim 16 and 17. Applicant

argues that the particles of the instant claims achieve sustained release without the use of a second film forming agent or a plasticizer while the '974 patent requires these components. However the instant claims are written in open claim language and do not foreclose the inclusion of these components and as such they can be present. Applicant argues that the '974 patent does not disclose parenteral administration, yet oral administration. However the claims actually recite that the particles are *capable* of parenteral administration, meaning there must only be a possibility of the particles being administered in this way given a certain set of circumstances. This is a future intended use that does not change the compositional components of the instant invention and do not distinguish over the future art. Further Applicant argues that the '974 patent does not disclose that the active agents do not form a saturated solution. However like the permeability of the coating or the release kinetics of the dosage form, this feature is dependent on the compositional components of the dosage form. As such since a compound and its properties cannot be separated, the same collection of compounds must have the same properties. These functional limitations are dependent on the composition of the dosage form and disposition of the polymers and components. The '974 patent teaches a multiparticulate dosage form comprising a core and a drug, where the core is coated with permeable polymers (col. 6, lin. 20-col. 7, lin. 10). For these reasons the claims remain anticipated.

(3) The '497 patent does not anticipate the instant claims since it does not disclose a multiparticulate dosage form comprising coated drug cores as recited in the instant claims.

Regarding this argument, it remains the position of the Examiner that the '497 patent continues to anticipate the instant claims. Applicant argues that that '497 patent does not disclose a permeable coating. However as disclosed above the '497 patent discloses a core

particle coated with a polymer identical to the polymers recited in the instant claims 16 and 17, specifically cellulose polymers (col. 7, lin. 60-65). The permeability of the coating or the release kinetics of the dosage form, are features that are dependent on the compositional components of the dosage form. As such since a compound and its properties cannot be separated, the same collection of compounds must have the same properties. These functional limitations are dependent on the composition of the dosage form and disposition of the polymers and components. As such it remains the position of the Examiner that the '497 patent discloses a controlled release dosage form comprising multiple coated cores where the core comprises a drug and the coatings comprise cellulose polymers recited in instant claims 16 and 17. For these reasons the claims remain anticipated.

(3) The '974 patent does not obviate the instant claims since it does not disclose a multiparticulate dosage form comprising coated drug cores as recited in the instant claims.

As discussed above the '974 patent obviates the instant claims. Applicant again argues that the oral dosage form of the '974 patent does not obviate the instant claims since the instant invention is drawn to a parenteral administration. As discussed above the instant claims recite that the claims are merely capable of parenteral administration meaning that the formulation *can* be used for parenteral administration given a specific set of circumstances. These limitations are a future intended use that do not distinguish over the prior art. The claims are defined by the compounds and the disposition of the components. As such the '974 patent discloses a multi-particulate formulation comprising cores and coatings comprising polymers recited in instant claims 16 and 17. It would have been obvious to choose smaller particles from the wide range of particles produced because these particles would have an increase surface area, increasing the

total amount of pharmaceuticals administered to the patient. For these reasons the claims remain obviated.

(4) The '946 patent does not obviate the instant claims since it does not disclose a multiparticulate dosage form comprising coated drug cores as recited in the instant claims.

Regarding this argument it remains the position of the Examiner that the '946 patent continues to obviate the instant claims. Applicant argues that the '946 patent is a mixture and not a coated particle as recited in the instant claims. As discussed above Examples 3-5 recite cores that are coated. These cores are coated and collected into a gelatin capsule. This meets the limitations of the instant claims regarding multi-particulate dosage forms. The cores are mixtures of the drug and auxiliary substances, and the claims do not foreclose the inclusion of excipients into the core since the claims are written in open claim language. Applicant again argues that the coating is not permeable, however the coating is defined by the polymers present in the coating with is defined identically to the polymers recited in claim 16 and 17. As such since the same polymers are disclosed, they must also have the same properties. It remains obvious to optimize the concentrations of the drug concentration through routine experimentation known to those of ordinary skill in the art. The general conditions of the claims have been met specifically a core comprising a drug and a coating on the core (Examples). For these reasons the claims remain obviated by the '946 patent.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICAH-PAUL YOUNG whose telephone number is (571)272-0608. The examiner can normally be reached on Monday-Friday 8:00-5:30; every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Hartley can be reached on 571-272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael G. Hartley/
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/MICAH-PAUL YOUNG/
Examiner, Art Unit 1618